

§ 33. INSECTS IMPORTED FROM EUROPE. Dr. H. A. HAGEN read some notes on insects which purport to have been imported into this country from Europe. At the previous meeting he had said that three-fourths of the species of insects which were introduced into America were not indigenous to Europe, but if they had come to this country from Europe they had equally come to Europe previously from the east. Their line of migration was indicated in some cases by the names they bore. All these migrating insects had spread from the east toward the west. Dr. Hagen now took up the subject of clothes-moths and their allies. In recent years, lists of insects imported into America had been made by B. D. Walsh, by C. V. Riley, and by J. A. Lintner. In these lists *Tinea vestianella*, *T. tapetzella*, *T. pellionella* and *T. flavifrontella* are said to have been imported from Europe. Dr. Hagen says that Linnaeus' description of *T. vestianella* is not sufficient for the recognition of the species. The only specimens of *T. tapetzella* known to have been collected in this country are the type of V. T. Chambers' description and two specimens in the Harris collection. Dr. Hagen has not seen *T. pellionella* in this country, and it is doubtful whether the common species known in this country as *T. flavifrontella* is identical with the European species that bear that name.

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BIBLIOGRAPHICAL RECORD.

(Continued from page 168.)

The date of publication, here given in brackets [], marks the time at which the work was received by the Editor, unless an earlier date of publication is known to him. An asterisk * before a title is the Recorder's certificate of accuracy of quotation. Corrections of errors and notices of omissions are solicited. — B. PICKMAN MANN.

Nos. 1003 to 1021 are from the **Amer. Nat.**, v. 10.

*¹ 1003. H. A. HAGEN. The history of the origin and development of museums. p. 80-89, 135-148.

Notices the earliest known collections and of the mode of preservation of the natural history specimens; gives a brief history of the use of paper and other articles essential to the preservation of collections; curious collec-

¹ Record made by Mr. George Dimmock.

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tions of the past; impulse given to the establishment of museums by the formation of academies and by the discovery of the microscope; the invention of the binomial nomenclature; objects, mode of arrangement, and development of modern museums.

*¹ 1004. S: H. SCUDDER. The chirp of the mole-cricket. p. 97-98.

[Same as PSYCHE, v. 1, p. 105-106.]

*¹ 1005. A: R. GROTE. A colony of butterflies. p. 129-132.

How *Oeneis semidea* was left on the White Mountains by the receding glaciers, at the decline of the ice-period; species similar to if not like it are found upon the mountains of Colorado and in Labrador, from the same causes.

*¹ 1006. ————. Lubbock's observations on bees and ants. p. 148-161.

Quotation from F. Müller to show that bees "knew how to advise the queen that something was as yet to be done, but knew not how to show her *where* it had to be done"; bees do not show attachment or affection for one another; their devotion to their queen is of the most limited character; they can distinguish scents; experiments to determine whether the same bees always act as sentinels; bees possibly recognize others of the same hive by their scent, but not much importance need be attached to their recognition of one another as an indication of intelligence; experiments to ascertain whether the bees which collect honey also work in the hive, to determine how well they can find their way about, to ascertain if they return to the same part of the hive; bees as robbers of hives not their own: ability of ants to recognize companions; their power of communication.

*¹ 1007. A: R. GROTE and ADOLPH KAYSER. Are potato bugs poisonous? p. 205-207.

[Same as article cited in Rec., no. 587.]

*¹ 1008. ————. Jumping seeds and galls. p. 216-218.

Concerning the larvæ of *Carpocapsa saltitans* from the *Yerba de flecha* the cause of the so-called "Mexican jumping seeds," the larvæ of *Nanodes tamarisei* which cause motion in the seeds of *Tamariscus*, and the larvæ of *Cynips saltatorius* which cause a kind of oak-gall to jump.

*¹ 1009. W. F. BUNDY. Flowers of the golden currant perforated by humble-bees. p. 238.

Flowers of *Ribes aureum* and *Robinia pseudacacia* perforated by humble bees.

*¹ 1010. A. S. PACKARD, JR. The cave beetles of Kentucky. p. 202-287, fig. 17, and pl. 2.

¹ Record made by Mr. George Dimmock.

Localities where the different species of *Anophthalmus* and *Adelops* are found; variations in size of the individuals of the same species; beetles from outside which had accidentally found their way into the caves; larvæ of the species; figures *Batrissus spretus*, *Anophthalmus tellkampffii* larva and pupa, *Adelops hirtus* and larva, *Quedius fulgidus* and two undetermined larvæ.

*¹ 1011. J. S. KINGSLEY. Are potato beetles poisonous? p. 303.

Regards the experiments made by Messrs. Grote and Kayser [see Rec., nos. 587 and 1007] not conclusive.

*¹ 1012. GILBERT S. JUDD. Occurrence of maggots in a boy. p. 374-375.

Anthomyia scalaris larvæ in the intestines of a boy.

*¹ 1013. S: H. SCUDDER. A cosmopolitan butterfly. I. Its birthplace. p. 392-396.

Vanessa cardui originally came from North America; its distribution. [See Rec., no. 1020.]

*¹ 1014. H. A. HAGEN. The probable danger from white ants. p. 401-410.

Habitations and mode of life of Termites; history of the devastations of the European *T. lucifugus* and the North American *T. flavipes*; means recommended to prevent danger from them.

*¹ 1015. A. S. PACKARD, JR. The house fly. p. 476-480, fig. 28.

[Reproduction of the leading points of the article cited in Rec., no. 6.]

*¹ 1016. S: H. SCUDDER. The mode in which cockroaches and earwigs fold their wings. p. 521-529, fig. 29-41.

Illustrations and descriptions of the mode in which quite a number of species close and open their wings.

*¹ 1017. ———. Mimicry in butterflies explained by natural selection. p. 534-536.

[An abstract of Fritz Müller's article in the *Jenaische Zeitschrift für Naturwissenschaft*, xi, Feb., 1876.] Discussion of mimicry with especial reference to the species of *Leptalis*.

*¹ 1018. A. S. PACKARD, JR. A century's progress in American zoölogy. p. 591-598.

Enumerates some of the contributors to progress in entomology.

*¹ 1019. G. T. BETTANY, in *Nature*. The missing link between the vertebrates and invertebrates. p. 598-602.

[Abstract of Dohrn's *Der Ursprung der Wirbelthiere und das Princip des*

¹ Record made by Mr. George Dimmock.

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Functionwechsels : Genealogische Skizzen.] Correspondences between vertebrate and insect embryos.

*¹ 1020. S: H. SCUDDER. A cosmopolitan butterfly. II. Its history. p. 602-611.

Life history of *Vanessa cardui*, as far as known, in different parts of the world; its broods, food-plants and parasites. [See Rec., no. 1013.]

*¹ 1021. T. M. PETERS. A spider fisherman. p. 688.

A spider kills a minnow by dropping upon it from a tree over a spring and biting its neck until it is dead.

*¹ 1022. The **Amer. Nat.**, v. 11, contains the following, and nos. 1023 to 1036.

a. Notices of Dr. F. Katter's Entomologischer Kalender für Deutschland, Oesterreich und die Schweiz, p. 55; of Weismann's Final causes of transmutation [including a description of the nature of the markings of Sphingid larvæ], p. 109-110; of Glover's Manuscript notes . . . Heteroptera, or Plant bugs [see Rec., no. 967], p. 110; of the entomological portions of Bulletin, no. 2, v. 3, of Hayden's U. S. Geol. Surv. Terr. [see Rec., nos. 855-858], p. 367; of Scudder's Fossil insects from British Columbia, p. 374-375; of Packard's Half hours with insects, correcting typographical errors [see Rec., no. 994, where the same errors are corrected], p. 443-444; of Murray's Economic entomology, p. 482-483; of PSYCHE, p. 508; of Gerstaecker's Arthropoda (in Bronn's Klassen und Ordnungen des Thierreichs), p. 702. b. Proceedings of societies: Amer. Assoc. Advanc. Sci. [Grote on Our knowledge of the cotton worm, and on A new lepidopterous insect injurious to vegetation (see Rec., no. 981), Bassett on Agamous reproduction among the Cynipidæ], p. 638; Acad. Nat. Sci. Philad. [LeConte on the spreading of introduced insects, McCook on *Formica rufa*, Leidy and McCook on destruction of plants by ants, LeConte on *Anthrenus scrophulariae*, and on the effect of corrosive sublimate (Hg Cl₂) scattered upon ant-hills], p. 61-63; Bost. Soc. Nat. Hist. [Scudder on perfect and imperfect metamorphoses of insects, and on polymorphism of our blue butterflies], p. 447 [Scudder on fossil insects from Colorado], p. 703; Camb. Entom. Club [Dimmock on Anisopteryx, Scudder on a Myrmecophila from Georgia, and upon fossil ants from Colorado], p. 190-191. c. Obituary notice of Dr. William LeBaron, p. 56. d. The zoology of the Wheeler survey, p. 108-109. e. A few words about scavengers [among which are mentioned flies, mosquitoes in their larval state, Silpha (for which is figured a Necrophorus) and Iulus] (by Prof. Sanborn Tenney), p. 129-135. f. The phenomena of digestion in the cockroach [from Plateau's researches], p. 243. g. Appropriation by Congress for U. S. Entom. Comm., and the appointment of its members, p. 254. h. *Thelyphonus giganteus* poisonous, p. 367. i. Locust ravages in northern China, p. 634.

¹ Record made by Mr. George Dimmock.

j. The jigger flea [*Pulex penetrans*] (from the Danish Journal for the Popular Diffusion of Natural Science), p. 755-756, and 12 fig.

*¹ 1023. ALFRED W. BENNETT. Is protective mimicry due to natural selection? p. 3-7.

Opposes the arguments advanced by Fritz Müller "that the curious phenomena of protective mimicry in lepidoptera can be fully explained by the theory of natural selection." The mimetic species are often far separated geographically. "Difficulty of understanding how the first steps in the approach of one insect towards another could possibly be useful in deceiving an enemy."

*¹ 1024. W: H. DALL. Educated fleas. p. 7-11.

Describes an exhibition of so-called "educated fleas," and the way in which they perform. Their performances "may be traced directly to the desire and earnest efforts of the insects to escape."

*¹ 1025. A. S. PACKARD, JR. The migrations of the destructive locust of the west. p. 22-29.

Table of dates of migrations of *Caloptenus*; "the immediate cause of the migrations of the locust from its original breeding places is the unusual abundance of the species during certain years." "The secondary cause of the migration is the desire for food, and possibly the reproductive instinct." Possibility of predicting insect years by meteorological data. Losses sustained in the United States from the attacks of insects; need of a salaried commission of entomologists. [See Rec., no. 975.]

*¹ 1026. A. S. PACKARD, JR. Explorations of the Polaris Expedition to the North Pole. p. 51-53.

Notes the species of insects captured by Dr. Bessels and describes 2 new species, *Microgaster hallii* [Braconidae] and *Isotoma besselsii* [Poduridae].

*¹ 1027. L: TROUVELOT. The use of the antennæ in insects. p. 193-196.

Concludes from experiments described in the article that "the sense localized in the antennæ cannot be regarded only as that of touch, hearing, or taste, nor can it be regarded as uniting their complex functions. . . . It is a kind of feeling or smelling at a great distance, by some process now totally unknown."

*¹ 1028. A. S. PACKARD, JR. Partiality of white butterflies for white flowers. p. 243.

Pieris rapae abundant on a white Aster, and *Colias philodice* on a yellow Solidago, in the same field.

*¹ 1029. S: H. SCUDDER. A flight of butterflies. p. 244-245.

A sketch, describing a flight of butterflies seen near Boston, by Wm. Edwards, followed by notes on similar migrations, by Mr. Scudder.

¹ Record made by Mr. George Dimmock.

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*¹ 1030. C: SEDGWICK MINOT. The study of zoölogy in Germany. II. The methods used in histology and embryology. p. 392-406, fig. 71-76.

Figures the teeth of the crop of *Gryllus cinereus*, a section of the trachea of *Hydrophilus piceus*, and an isolated muscular fibre of a common water beetle.

*¹ 1031. A. S. PACKARD, JR. Experiments on the sense organs of insects. p. 418-423.

After describing a series of experiments made by removing the antennæ from various species of insects, the author says, "I do not see that my experiments enable us to prove anything as to the nature of the function of the antennæ, except to indicate that the insect's brain is as it were projected into them, and that their nerves probably possess nucleated cells, homologous with those of the ganglia from which the sense-nerves originate."

*¹ 1032. [C: R. OSTEN SACKEN.] Ganin's Metamorphoses of insects. p. 423-430.

Reviews at length Materials for a knowledge of the postembryonal development of insects by Prof. M. Ganin, [in Russian], in the Transactions of the fifth meeting of Russian naturalists in Warsaw.

*¹ 1033. ANDREW MURRAY. The museum mite. p. 479-482.

Describes *Tyroglyphus entomophagus*, and how to rid collections of it. [Extracted from Economic entomology: Aptera. By Andrew Murray. London, 1877.]

*¹ 1034. ALFRED RUSSEL WALLACE. The colors of animals and plants. I. The colors of animals. p. 641-662, 713-728.

Reviews theories of animal coloration, giving numerous examples from insects, especially from Lepidoptera; classifies colors thus:

ANIMALS.	{	1. Protective colors.	{	<i>a.</i>	Of creatures specially protected.
		2. Warning colors.			
		3. Sexual colors.		<i>b.</i>	Of defenseless creatures, mimicking <i>a.</i>
		4. Typical colors.			
PLANTS.		5. Attractive colors.			

This classification is followed by an extended discussion of its different kinds of colors, often illustrated by insects. [From Macmillan's Magazine, 1877, v. 36, p. 464-471; reprinted in Littell's Living Age, 1877 [s. 5], v. 20, p. 67-86; and in Popular Science Monthly Supplement, no. 7.

*¹ 1035. C: V. RILEY. The Rocky Mountain locust. p. 663-673.

[Abstract of an address delivered at the Chicago session of the Amer. Agricultural Congress, in September 1877.] General description of Calo-

¹ Record made by Mr. George Dimmock.

ptenus and its mode of operation; what can be done to prevent its ravages; migrations and rules that govern them.

*¹ 1036. FK: H. SNOW. Hunting *Amblychila*. p. 731-735.

Habits and abundance of *Amblychila cylindriciformis*.

*¹ 1037. The **Amer. Nat.**, v. 12, contains the following, and nos. 1038-1057.

a. Notice of Brhm's Thierleben, Bd. 9, Die Insekten . . . von Dr. E. L. Taschenberg, p. 116-118, [fig.]; of Kirby's Synonymic catalogue of Diurnal Lepidoptera, p. 118-119; of Monteiro's Angola and the river Congo, p. 238-242, [fig. of insects]; of Thomas' Sixth rept. . . insects of the state of Illinois, p. 243 [see Rec., no. 993]; of Glover's Manuscript notes . . . Index to names, etc. . . [see Rec. no. 968], p. 262; of Girard's Les abeilles, organes et fonctions éducation et produits miel et cire, p. 313-314; of Emerton's Structure and habits of spiders, p. 544-545; of Cook's Manual of the apiary, p. 550; of Thorell's Studi sui ragni Malesi e Papuani, p. 550; of First annual rept. of the U. S. Entom. Comm., p. 575; of Lintner's Entom. contributions, no. iv, p. 576; of Flögel's On the structure of the brain in different orders of insects [in *Zeitschrift für Wissensch. Zool.*], p. 616-617; of Graber's Die Insekten, p. 689-690. *b.* Proceedings of societies: Acad. Nat. Sci. Philad. [Potts on insects in pitchers of *Nepenthes*], p. 268-269; Appalachian Mountain Club [Scudder on insects of high altitudes in N. A.], p. 577; Bost. Soc. Nat. Hist. [Scudder on *Prodryas*, a new fossil butterfly and on the early life of some tertiary insects, and particularly on the eggs of a fossil *Corydalus*], p. 337. *c.* Notice of death of T. Vernon Wollaston, and of Andrew Murray, p. 197; of Jared P. Kirtland, p. 198. *d.* Skunks eating *Amblychila cylindriciformis* (by S. W. Williston), p. 206. *e.* Eleodes and *Asida* in burrows of prairie dogs (by S. W. Williston), p. 208. *f.* Mono Lake Indians eating roasted wasp-nests and their way of discovering the nests (by Edw. Palmer), p. 311-312. *g.* Entomological instruction at the Summer School of Biology of the Peabody Acad. Sci., p. 337. *h.* *Thelyphonus giganteus* offensively odorous, p. 396. *i.* Phylloxera in Switzerland, p. 411. *j.* C. V. Riley appointed Entomologist to the Dept. of Agric., p. 413. *k.* Mode of moulting the lining of crop and stomach in insects [mostly from Wilde's observations on Orthoptera], p. 476-477. *l.* Silk-production of European countries per annum [from *Nature*], p. 496. *m.* Insects needed to fertilize *Utricularia* and *Pyxidanthra* (by W. J. Beal), p. 552-554, 6 fig. *n.* Call for meeting of Entom. Club of the A. A. A. S. (by B. P. Mann), p. 577. *o.* Entom. observers appointed by the Dept. of Agric., p. 705. *p.* *Geophilus*, a myriopod, from nostrils of a child, p. 705. *q.* *Cetonia inda* injuring corn, p. 753.

*¹ 1038. C: V. RILEY. On the transformations of the red mites. p. 139-146, fig. 1-6.

¹ Record made by Mr. George Dimmock.

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Describes and figures *Trombidium locustarum*, *T. giganteum*, *T. muscarum*, and *Hydrachna belostomae* = 4 n. spp. Figures and describes the parasitic habits and most of the stages of the above species. [Extracted from advance copy of the First annual report of the U. S. Entomological Commission.]

*1 1039. C: V. RILEY. On the transformations and habits of the blister-beetles. p. 213-219, 282-290, pl. 1, fig. 1-5.

Life history of Meloe, Sitaris, Hornia, and Epicauta; larval habits of Macrobasis, Henous and other Meloid genera. Larvæ of *Epicauta cinerea*, *E. pensylvanica* and *Macrobasis unicolor* feed upon eggs of Caloptenus. Figures the different stages of the above-mentioned Meloidae. [From the Trans. Acad. Sci. of St. Louis.]

*1 1040. C: S. MINOR. A lesson on comparative histology. p. 339-347, pl. 2, fig. 1-3.

Illustrations mostly drawn from Caloptenus and Oedipoda. [Figures are the same as in the First annual report of the U. S. Entomological Commission.]

*1 1041. MRS. V. O. KING. Phosphorescent insects. Their metamorphoses. p. 354-358.

Traces, in Lampyris, the "supposed evolution from an apterous to that of an aerial being, and back to earth again as a creeper with heavy disproportioned body, feeble feet and mandibles, small eyes, and brilliant terminal segments."

*1 1042. A. S. PACKARD, JR. The mode of extrication of silkworm moths from their cocoons. p. 379-383, fig.

Figures and describes a cocoon-cutter, or "*sector coconis*," found upon the base of each fore wing in *Actias luna*, *Telea polyphemus*, *Callosamia promethea*, *Platysamia cecropia*, *P. gloverii*, *Samia cynthia*, *Attacus amazonia*, *Saturnia pavonia-minor*, *Endromis versicolora* and *Bombyx mori*, by means of which these species may cut their way out of their cocoons.

*1 1043. T. THORELL. Notice of the spiders of the "Polaris" Expedition. p. 393-396.

Notes upon the 4 species found, *Erigone psychrophila*, *Erigone penessa* [n. sp. here described], *Lycosa glacialis*, and *Trochosa* inc. spec.

*1 1044. REV. H: C. MCCOOK. Mound-making ants of the Alleghenies. p. 431-445, fig. 1-8.

Habits of *Formica exsectoides*; their mounds, gallery-building, underground galleries, adding stories, entrances, size of ant compared with its edifice, sentinels, paths on trees, winter habits, beetles found in nests (*Tmesiphorus costalis*, *Atemeles cava* and *Cedius ziegléri*), lepidopterous larvæ (of *Lycæna*) in nests of ants and the use which the ants make of

¹ Record made by Mr. George Dimmock.

them. [Substantially extracts from the Trans. Amer. Entom. Soc., 1877, v. 6, p. 253-296; in which paper the species of ant is given as *Formica rufa*.]

*¹1045. HON. J. D. COX. The smallest insect known (*Pteratomus putnamii*). p. 445-448, fig.

Figures *Pt. putnamii*.

*¹1046. D. C. McLAREN. The mode of extrication of the American silk-worm moth. p. 454-456.

Observations on *Telea polyphemus* in the act of emergence from the chrysalis, and confirming the observations recorded in Rec. no. 1042.

*¹1047. A. S. PACKARD, JR. Some characteristics of the central zoö-geographical province of the United States. p. 512-517.

Review of the zoological provinces into which different authors have divided the United States. Insects of the central province lying north of the fortieth parallel, including Colorado, Wyoming, northern Utah, western Idaho, central and northern Montana.

*¹1048. E. D. COPE. The report of the Committee of the American Association of 1876 on biological nomenclature. p. 517-525.

Notes upon the circular in regard to nomenclature issued by the Amer. Assoc. Advanc. Sci., with a summary of the answers received to the questions in the circular.

*¹1049. JA: A. LINTNER. The new carpet beetle—*Anthrenus scrophulariæ*. p. 536-544, fig. 1.

Introduction of *A. scrophulariæ* into America; figures and descriptions of larva, pupa and imago; habits and extent of its depredations; remedies; enumeration of some other injurious insects said to have been introduced from Europe.

*¹1050. J: A. RYDER. Discovery of two remarkable genera of minute myriapods in Fairmount Park, Philadelphia. p. 557-558.

Notes *Polyxenus fasciculatus* and *Pauropus huxleyi* from Philadelphia. An appended editorial note says *Pauropus lubbockii* and *Polyxenus fasciculatus* have been found at Salem, Mass.

*¹1051. J: P. MARSHALL. Mode of construction of the cocoons of *Microgaster*. p. 558-560, 2 fig.

Figures the different stages of cocoon-building of a *Microgaster* parasitic on *Philampelus*.

*¹1052. H: TURNER. Notes on a New Jersey carpenter bee. p. 627-628.

Nest of *Xylocopa virginica* described.

¹ Record made by Mr. George Dimmock.

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*¹ 1053. EMILY A. SMITH. The maple-tree bark-louse. p. 655-661, fig. 1-6.

Describes and figures *Lecanium aceriscorticis*, ♂ and ♀; notes upon its habits and parasites. Describes *Coccophagus lecanii*, n. sp., parasitic on *L. aceriscorticis*.

*¹ 1054. MRS. V. O. KING. The fire-flies and their phosphorescent phenomena. p. 662-665.

General remarks upon the light of Lampyridae, differences in the different genera, supposed chemical causes of the light, uses of the light.

*¹ 1055. W. A. BUCKHOUT. The cocoons of *Microgaster*. p. 752.

Several points in the spinning of the cocoon different from the modes described in the article recorded in Rec., no. 1051.

*¹ 1056. EMILY A. SMITH. Modes of spreading and means of extinguishing the maple-tree bark-louse. p. 808-809.

Transportation of *Lecanium aceriscorticis* upon trees and on the legs of flies and wasps; recommendation of fire-extinguisher charged as usual except with the addition of a little carbolic acid.

*¹ 1057. S. A. FORBES. Breeding habits of *Corixa*. p. 820.

Eggs of *Corixa alternata* found abundantly on the carapace of *Cambarus immunis*, *C. acutus* and on the shells of fresh water mollusks. This peculiar place of oviposition is supposed to prevent the eggs from drying up when a pool dries, for the animals upon which the eggs are placed migrate to a new pool.

* 1058. The **Can. Entom.**, [see Rec., nos. 397-534], v. 8, contains the following, and nos. 1059 to 1135.

a. [Notice of the collection of] Canadian insects at the Centennial [Exposition in Philadelphia; 86 cases sent from the Entom. Soc. Ontario; see Rec., no. 712.] p. 112. b. [Announcement of the meeting of the] Entomological Club of the A. A. A. S. [to be held at Buffalo, N. Y.], p. 138. c. Notice of Packard's Monograph of the Geometrid moths, p. 139; of Riley's 8th Annual report [see Rec., no. 970], p. 140; of Hagen's On some insect deformities, p. 140. d. [Notice of E. P. Austin's] Agency for the exchange and sale of Coleoptera, p. 228. e. Miscellaneous [inquiry about the distribution of *Papilio turnus*, black female; insects to exchange or sell], p. 239. f. Index, p. 241-244.

¹ Record made by Mr. George Dimmock.